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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,107	02/13/2004	Yoshiaki Eguchi	NIT-411	4558

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EXAMINER

GUYTON, PHILIP A

ART UNIT

PAPER NUMBER

2113

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/777,107	Applicant(s) EGUCHI ET AL.	
	Examiner Philip Guyton	Art Unit 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 3 February 2004. It is noted, however, that applicant has not filed a certified copy of the JP 2004-26356 application as required by 35 U.S.C. 119(b).

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claim 7 is objected to because of the following informalities: the phrases "wherein the host comprises the steps of," and "the storage system comprises the steps of" are grammatically incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 6 recites the limitation "the mark ID and mark data." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,671,705 to Duprey et al. (hereinafter Duprey).

With respect to claim 1, Duprey discloses a data restoring method for restoring data stored in a second storage system in a storage subsystem (figure 1, item 120) including a first storage system (figure 1, item 130) and a second storage system (figure 1, item 140), each of which is connected to a host (figure 1, item 110) via a

communication channel, in which the second storage system stores a copy of data to be transmitted from the first storage system, wherein

the first storage system processes an I/O request from the host, and as a result of I/O processing of the second storage system, transmits updated data (column 4, lines 27-36 and lines 58-61),

the second storage system retains data received from the first storage system as update log data (column 15, line 49-column 16, line 2), and

the host transmits a command for settling a state of an application to the first storage system as data (figure 6, item 604), the first storage system transmits the data to the second storage system (figure 6, item 610 and column 16, lines 16-17), and the host and the second storage system both retain an identifier corresponding to the command (column 16, lines 6-13), and relate the identifier to the log data whereby the host designates the identifier at any given time to thereby restore data at any given time by the second storage system (column 19, line 58-column 20, line 5).

With respect to claim 2, Duprey discloses wherein the host issues an I/O instruction of an identifier to the second storage system at a remote site (column 1, lines 44-49).

With respect to claim 3, Duprey discloses wherein the second storage system at a remote site receives the I/O instruction of an identifier of the host, and relates the update log of data to the identifier to store it in a storage unit (column 19, line 58-column 20, line 5).

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With respect to claim 7, Duprey discloses a data processing method for processing data to be stored in a storage unit in a computer system including a storage system (figure 1, item 120) equipped with the storage unit (figure 1, item 130) connected to a host (figure 1, item 110) through a network, wherein the host comprises the steps of:

- requesting the storage system to create and save a copy of data which has been stored in the storage unit (column 4, lines 58-61);

- requesting the storage system to record an update portion of data due to processing of the host (column 4, lines 27-36); and

- transmitting to the storage system identification information for identifying a state of the computer system at any given time (column 19, lines 26-30), and

- the storage system comprises the steps of:

- creating and saving a copy of data of the storage unit in response to a request of the host (column 16, lines 16-17);

- saving, when content of the storage unit has been updated, data prior to and subsequent to the update and information indicating a place of update as log data (column 16, lines 5-8);

- retaining identification information to be transmitted from the host (column 16, lines 5-8); and

- relating the log data to the identification information (column 16, lines 8-14).

With respect to claim 8, Duprey discloses wherein when storing the content stored in the storage unit to a state at any given time, the host designates state

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identification information to transmit a request for restoring the data to the storage system (column 19, line 58-column 20, line 5), and

the storage system discriminates the identification information received and restores the data through the use of a copy of the data and the log data (column 20, lines 32-24).

With respect to claim 9, Duprey discloses wherein the identification information that the host and the storage system have in common is managed by the storage system by relating the identification information to update history, and data stored in the storage unit up to update history indicated by specific identification information is restored in response to an instruction from the host (column 19, line 58-column 20, line 5).

Allowable Subject Matter

10. Claims 12-20 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

The elements of independent claims 12, 18, and 20 were not found through a search of the prior art, nor were they considered obvious by the examiner. In particular, the prior art of record does not teach or suggest "a plurality of logical storage units, of which a certain logical storage unit stores a copy of data to be stored in a logical storage unit of the first storage system constituting a pair, and another logical storage

unit comprises: a storage unit to be allocated in order to store log data generated by the first storage system; a cache memory for temporarily storing data to be inputted into or outputted from the storage unit; a memory for storing at least management information concerning the logical storage unit, management information for defining a configuration of pair duplex between the first storage system and the second storage system, management information of a log and a program for processing a command from the host; and a processor for executing the program."

12. Claims 4-6, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Guyton whose telephone number is (571) 272-3807. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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